

W. C. JONES.

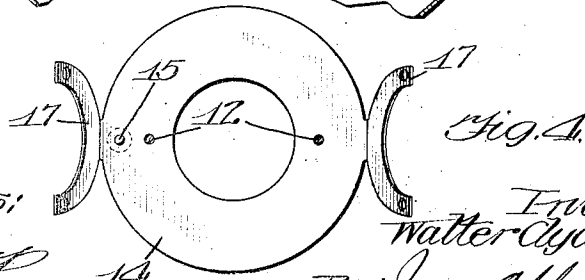
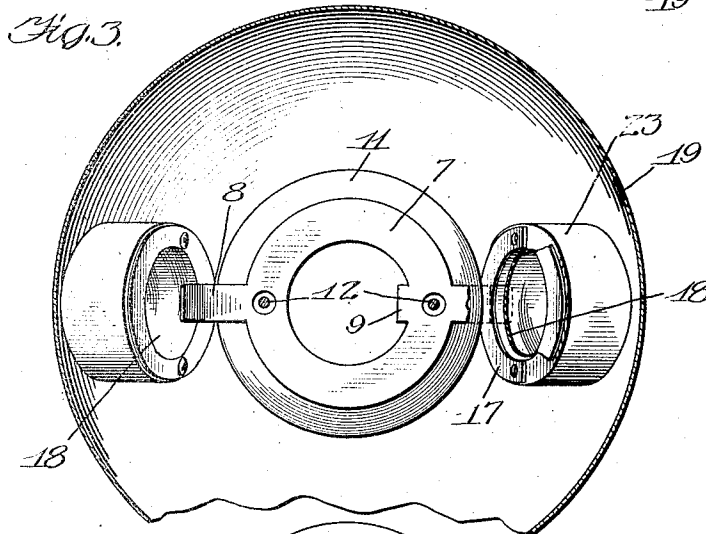
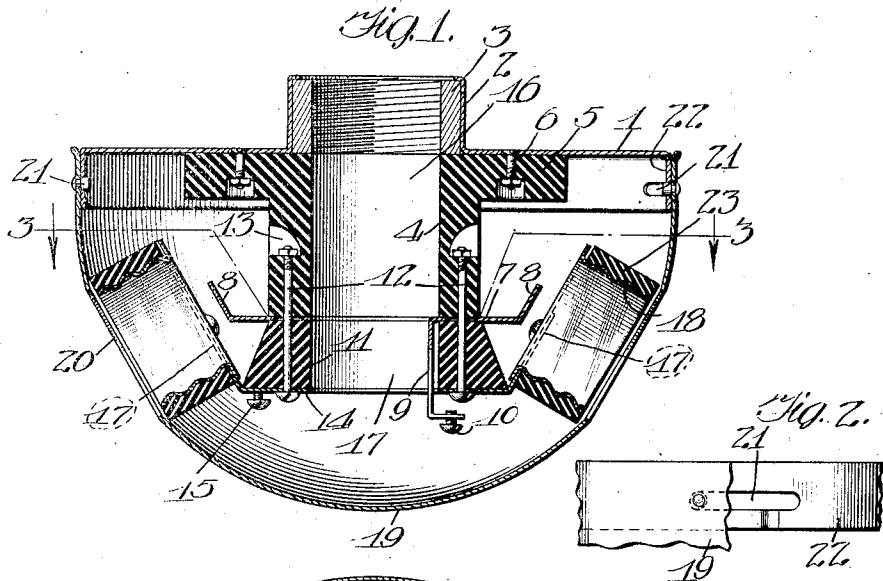
CLUSTER SOCKET.

APPLICATION FILED OCT. 20, 1906.

934,541.

Patented Sept. 21, 1909.

2 SHEETS—SHEET 1.



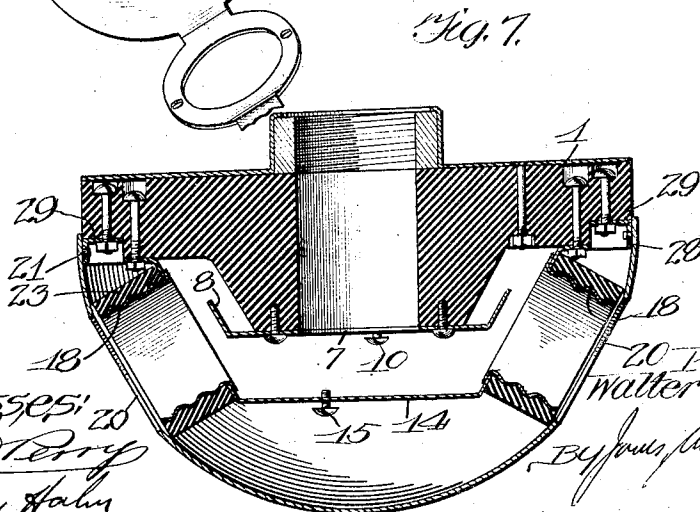
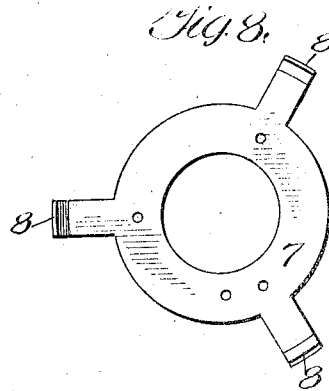
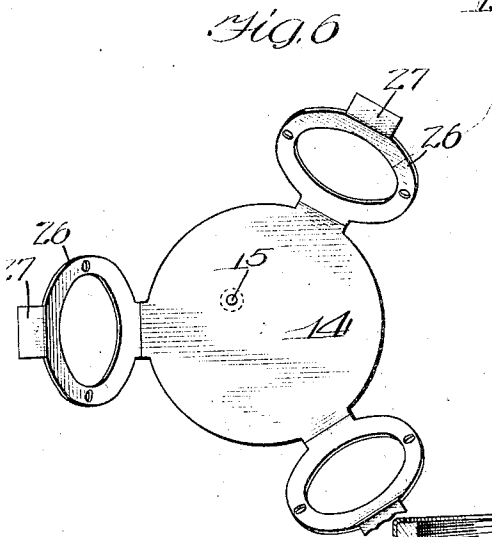
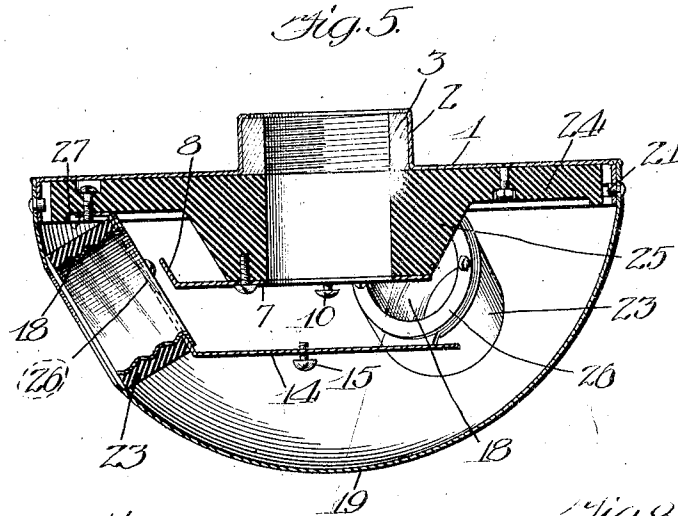
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CLUSTER SOCKET.
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UNITED STATES PATENT OFFICE.

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CLUSTER-SOCKET.

934,541.

Specification of Letters Patent.

Patented Sept. 21, 1909.

Application filed October 20, 1906. Serial No. 339,807.

To all whom it may concern:

Be it known that I, WALTER CLYDE JONES, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented new and useful Improvements in Cluster-Sockets, of which the following is a full, clear, concise, and exact description, reference being had to the accompanying drawing, forming a part of this specification.

My invention relates to a cluster socket for electric lamps, my object being to provide a novel form of cluster for the reception of a plurality of lamps possessing features of advantage over those of the prior art.

In cluster sockets of the type to which the present invention relates, it has been customary to provide a casing having a plurality of openings to accommodate the lamp bases, the lamp receivers and contacts being all suitably mounted within this casing. In one of the commercial structures this casing has been held in position by means of bushings passing through the openings in the casing, and screwing upon the exterior of the threaded shells; in order to gain access to the interior of the socket, it is necessary to remove the bushings. In another form of commercial cluster socket of this type, the casing is detachable and when removed, carries with it the lamp receivers and contacts. This form is objectionable because the binding posts being carried upon the removable casing, it is necessary to allow considerable slack in the leading-in wires. Moreover, in connecting the binding screws, it is necessary to hold the casing in one hand, but a single hand being thus available for manipulating the binding screws. In the type wherein the casing is held in place by the bushings, the casing, as an entity, is readily separable from the remainder of the structure and thus may be removed for cleaning, substitution or for other purpose. This entire independence of the casing is considered a feature of commercial value. In the type wherein lamp receivers and contacts are removable with the casing, it is necessary to disassemble the entire cluster, in order to secure the separability of the casing from the lamp receivers, contacts, bushings, etc.

It is the object of the present invention to devise a construction which, while possessing all of the advantages of the cluster sockets

above mentioned, removes the disadvantages or objectionable features to which said sockets are subjected.

In accordance with the present invention I provide a suitable supporting part, which may be attached to the wall, conduit, or, in fact, any suitable support, and I secure the lamp receivers and contacts so that when mounted in position they are immovable with respect to this supporting or basic part. I provide an inclosing casing having the usual openings for the passage of the lamp bases, and I detachably connect this casing with the supporting part by means of the well known bayonet joint or in any other desired manner. In order that the casing may be effectively insulated from the lamp receiving shells, I provide insulating bushings of rubber, porcelain or similar insulating material, preferably porcelain, these insulating bushings or rings surrounding the threaded shells, but not extending through the openings in the casing, so that the bushings do not interfere with the partial rotation of the casing necessary for manipulating the bayonet joint in attaching or detaching the casing. By this construction, I am enabled to dispense with the necessity of removing the bushings in order to remove the casing while retaining the advantage of a casing which is at all times entirely separate and distinct from the lamp receiving shells and associated contacts. Likewise, I am enabled to secure a readily detachable casing without the necessity of removing the lamp receiving shells, contacts, insulating base, etc., with the casing. In accordance with my invention, the casing may be removed and laid aside and both hands are available for manipulating the binding screws. Moreover, the objection due to the slack leading-in wires is obviated, and the leading-in wires may be drawn taut before connection with the binding screws. I obtain all of the advantages of a separable casing which, when removed, is independent of the lamp receiving shells, contacts, etc., so that for cleaning the casing or substituting a new casing, it is unnecessary to disassemble the cluster structure.

My invention is susceptible of a number of embodiments and I have illustrated several different structures in the drawings of

this application in order that it may be readily understood how the invention can be applied in practice.

I have illustrated preferred embodiments of my invention in the accompanying drawings, in which—

Figure 1 is a sectional view of one form of my socket; Fig. 2 is a detail elevation showing a bayonet joint for connecting the casing with the support; Fig. 3 is a sectional view taken on the line 3—3 of Fig. 1; Fig. 4 is a plan view of one of the contact plates; Fig. 5 is a transverse sectional view of a modification of my invention; Fig. 6 is a detail view of one of the contact plates shown in Fig. 5; Fig. 7 is a transverse section of still another modification of my invention; and Fig. 8 is a detailed view of the other of the contact plates.

According to one construction of my invention, I provide a suitable base or supporting part which, in the present instance, comprises a disk-like plate 1, having a central annular flange 2, within which fits a block 3, provided with a screw-threaded opening for securing the disk upon a suitable conduit or other projection. Secured to the underside of this disk is a porcelain base 4, provided with an annular flange 5, through which screws or bolts 6 pass, to secure the same upon the support 1. Upon the underside of the insulating base portion 4 is secured a contact plate 7, which preferably comprises a ring of brass or other good conducting metal, and has formed thereon projecting lugs 8, which are turned up, as illustrated. The contact plate 7 also has a downturned lug 9, which carries on its underside a binding post 10, to which one of the leading-in wires may be connected. Secured to the insulating base 4 in such a manner that the contact plate 7 lies between the same and the base 4, is a second auxiliary insulating base 11, which is preferably held in position by means of bolts 12, passing therethrough and having the ends thereof projecting into an annular slot 13 on said base 4, said slot being so constructed as to form a shoulder, against which the nuts of the bolts 12 are adapted to rest. The contact plate 7 has openings formed therein, through which the bolts pass, of such diameter that danger of the bolts coming into electrical contact therewith is reduced to the minimum. These bolts also secure in position a contact plate 14, in the form of a metal disk, which carries a binding post 15, to which the other of the supply wires is connected, the wires being arranged to be brought down through a suitable opening 16 formed in the insulating base. The contact plate 14 is provided with a number of integral yoke-shaped extensions 17, corresponding to the number of lamps in the cluster, and bent angularly upward to lie

in a position substantially parallel to the upturned portions of the contact plate 7. The yoke-shaped extensions 17 have secured thereto, in any suitable manner, as by rivets, threaded shells 18, arranged to receive the lamp bases, the lugs 8 on the contact plate 7 forming the center contacts for the lamps.

A dome-shaped cover or casing 19, provided with openings 20 registering with the threaded shells 18, is arranged to surround the various parts and is secured in position by means of bayonet joint connections 21, between the upper end of said casing and a downturned flange 22 formed upon the supporting part 1. Threaded bushings 23 are secured upon the exterior of the threaded shells 18 and are in close proximity to the casing 19, but do not project through the openings thereof, whereby, while they serve to suitably insulate the casing from the threaded shells, they permit the casing 19 to be removed without removing the threaded bushings or without disturbing any of the parts arranged within the casing.

In Fig. 5 I have illustrated a modification of my device, in which, instead of providing a base of the structure shown in Fig. 1, I have provided an insulating base 24, which is in the form of a disk having a downwardly projecting central portion 25. The insulating base is secured in position upon the underside of the supporting part 1, in any suitable manner, as by screws or bolts passing through the same. Upon the lower side of the downwardly extending portion 25 of the insulating base is secured the contact plate 7 provided with upturned lugs 8, and the binding post 10. Instead of providing yoke-shaped extensions upon the contact plate 14, I provide ring shaped extensions 26 thereon, which at their upper end have flange portions 27 arranged to be secured to the underside of the disk 24, whereby the contact plate is secured in position. These annular extensions have secured thereto the threaded shells 18 in the same manner as in Fig. 1. By this construction a substantial socket is formed, which more rigidly supports the lamps in their respective positions.

In Fig. 7 I have illustrated still another modification of my invention. It frequently occurs that, under certain circumstances, it is necessary to insulate the cover or casing from the supporting part and to this end, it will be noted by reference to Fig. 7, I have, instead of forming a flange on the supporting part 1, formed a flange 28 upon an annular ring 29 secured to the underside of the insulating base 24, and that the disk portion 24 of the insulating base is of the same diameter as the supporting member 1, whereby there is interposed between the supporting member 1 and the cover or casing 19 a thickness of insulating material.

It is apparent that the insulating rings 23 upon the shells 18 may be left off and the air space between the ends of the shells and the casing may be depended upon for insulation.

5 Having thus described my invention what I claim as new and desire to secure by Letters Patent is:

1. The combination with a suitable supporting plate, of an insulating base carried
10 thereby, a plurality of lamp-receiving shells and associated contacts mounted upon said base, a pair of binding posts for said shells and contacts, said insulating base being provided with a central opening through which
15 the circuit wires pass to the binding posts, a casing having an opening opposite each of said lamp-receiving shells to accommodate the passage of the lamp-bases, and a readily separable locking-connection between said
20 casing and supporting plate, said binding posts being so located as to be accessible when said casing is removed.

2. The combination with a suitable supporting plate, of an insulating base carried
25 thereby, a plurality of lamp-receiving shells and associated contacts mounted upon said base, a pair of binding posts for said shells and contacts, said insulating base being provided with a central opening through which
30 the circuit wires pass to the binding posts, a casing having an opening opposite each of said lamp-receiving shells to accommodate the passage of the lamp-bases, and a readily separable locking-connection between the
35 periphery of said casing and the periphery of said supporting plate.

3. The combination with a suitable supporting plate provided with an annular flange, of an insulating base carried by said
40 plate, a plurality of lamp-receiving shells and associated center contacts mounted upon said base, a pair of binding posts for said shells and contacts, said insulating base being provided with a central opening through
45 which the circuit wires pass to the binding posts, a casing having an opening opposite each of said shells to accommodate the passage of the lamp-bases, and a readily separable locking-connection between the casing
50 and the said annular flange on the supporting plate.

4. The combination with a supporting back plate, of an insulating base secured thereto, lamp-receiving shells and associated
55 contacts mounted upon said base, binding terminals for said shells and contacts, said insulating base being centrally apertured for

the passage of conductors to said binding terminals, a casing having an opening opposite each of said lamp-receiving shells, and
60 readily detachable means independent of said lamp-receiving shells for holding said casing in position, said binding terminals being so located as to be disclosed by the removal of said casing.

5. The combination with a supporting back plate, of an insulating base carried thereby, a casing removable independently of said base, lamp-receivers and associated
70 contacts supported by said base within said casing, insulating means carried by said lamp receivers for preventing electrical contact of said lamp receivers with said casing, binding terminals normally covered by said
75 casing and disclosed by the removal of said casing, said base being apertured for the passage of wires to said binding terminals, and means located at the edge of said casing
for securing the same in place.

6. The combination with a supporting
80 back plate, of an insulating base carried thereby and having a central aperture for the passage of conductors therethrough, lamp-receivers and associated contacts supported by said base, binding terminals for
85 said contacts and lamp-receivers, a casing normally concealing said binding terminals and arranged to disclose said binding terminals when removed, and means for peripherally locking said casing in position,
90 said lamp-receivers extending toward but stopping short of said casing so as to permit rotation of said casing to unlock the same.

7. The combination with a supporting back plate, of a base secured thereto, a casing inclosing said base, lamp-receivers and
95 associated contacts carried by said base, binding terminals for said contacts and lamp-receivers, means operated by turning said casing for locking said casing in position, said lamp receivers extending toward
100 but stopping short of said casing so as to permit turning of said casing to lock or unlock the same, and insulating rings carried by said lamp receivers to prevent electrical contact
105 of said receivers with said casing.

In witness whereof, I have hereunto subscribed my name in the presence of two witnesses.

WALTER CLYDE JONES.

Witnesses:

PERRY HAHN.

E. R. KING.